

THE IDEA OF
THE INDUSTRIAL SCHOOL

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THE IDEA OF
THE INDUSTRIAL SCHOOL

BY
GEORG KERSCHENSTEINER

TRANSLATED FROM THE GERMAN

BY
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TRANSLATOR'S NOTE

THE present work of Georg Kerschensteiner should be extremely acceptable to the educational world at this time. It is a concise and definite statement as to what is meant by industrial education. He was prompted to write it because of the danger of misunderstanding the real meaning of industrial education both on the part of its opponents and on the part of its supporters. We have need in America of being reminded once again of the ideal that industrial education seeks to realize.

The Appendix applies of course to work in Germany and should not be taken as a model for this country. It is nevertheless of great interest, showing what has been achieved with first-grade children in Munich, and it is for that reason that I have retained it in the English translation.

RUDOLF PINTNER, M.A., PH.D.

TOLEDO, OHIO,
November, 1912.

PREFACE

ON January 12, 1908, I was invited by the Board of Education of the Canton of Zürich to give an address in St. Peter's Church in Zürich on the occasion of the celebration of the one hundred and sixty-second anniversary of Heinrich Pestalozzi's birthday. I chose as my subject "The School of the Future in the Spirit of Pestalozzi," and I called this school an industrial school. What I had in my mind at that time I put in the form of a sermon, as suitable to the purpose of the hour and to the sacredness of the place. At that time I was not concerned with formulating logically my ideas, but rather with touching the hearts of my hearers and inspiring them with an old, but still unattained ideal.

It is four years ago since that took place. The expression "industrial school," which is older than the works of Pestalozzi, has since

that day become a battle-cry. It was as if a sudden light had been shed upon the weak spot in our public school system, including our elementary and high schools—a weakness that had been for a long time more or less clearly felt. But that was only an illusion. For the numerous pedagogical mistakes and contortions that that battle-cry brought forth in theory and in practice showed only too clearly how superficially and mechanically the spirit of the industrial school had been understood. It showed, too, how many ideas, vague and of doubtful value, began to cluster round the idea of an industrial school. I need only to refer here to the almost universal confusion of manual and intellectual work, or again to the effort towards concentration, based upon a false psychology, which proposes to divide up into a thousand pieces certain naturally united departments of learning, in order to present them to the student in a purely arbitrary connection without any real intellectual combining factor, "*quo omnis doctrina ingeniarum*

*et humanarum artium continetur.” (Cicero,
“De Orat.” III, 6. 21.)*

To try to correct these mistakes and end these contortions, the “Bund für Schulreform” chose the vocational school, as subject for discussion, at its meeting in Dresden on October 6–8, 1911, and invited Superintendent Gaudig and myself to read papers on the idea of the vocational school. These papers were to be followed by a free discussion, and it was hoped that this would help in making the idea clear and unambiguous. I accepted the invitation gladly, for it gave me an opportunity to give scientific expression in a carefully prepared paper to thoughts which have been in my mind for many, many years.

This work I am now publishing, and I hope that it will protect the development of our public schools, both elementary and high, from committing errors which would be far more dangerous than the sins of the old “book school.” This present work of mine is much longer and much more logical than

my speech of the 12th of February, 1908, and a comparison of the two will show that here I give examples of what I mean, where formerly I merely laid down the principle.

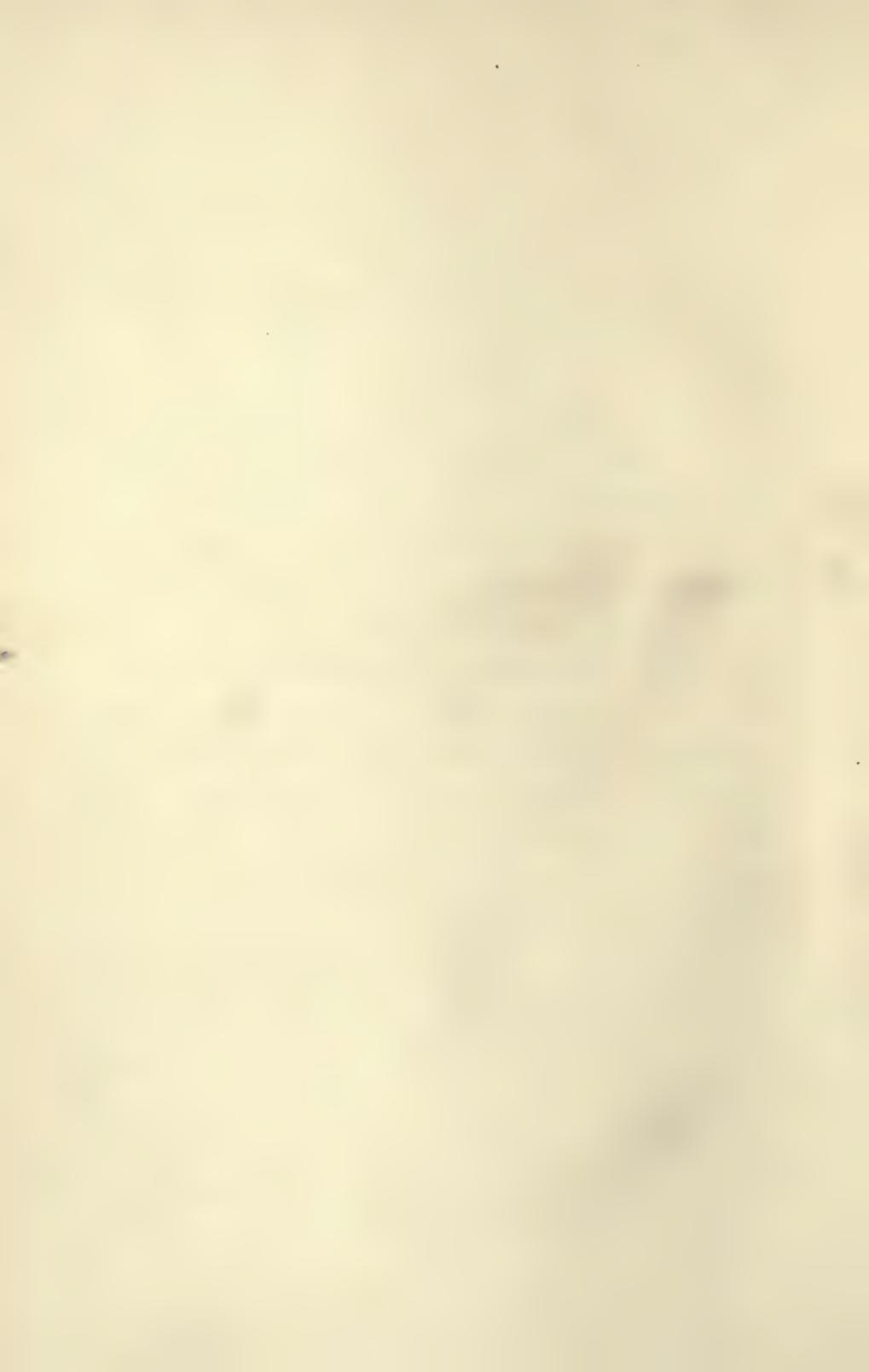
I was surprised that my speech of the 12th of February, 1908, gave occasion to a writer to claim for himself priority in this idea of a vocational school. Since I have never claimed the originality of this idea, I need give no answer. But I should like to state that the idea of a vocational school is as old as the theory of education. (Cf. Plato, "Leges," pp. 819 ff., Burnet's Oxford Edition.) Now ideas only become alive when they have been tested as to the possibility of their realization, by thinking them out logically to their consequences, and by suiting them to the forms of our present-day existence.

GEORG KERCHENSTEINER.

MUNICH, December, 1911.

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CHAPTER I

The National Purpose and the Duties of the Public Schools

TOWARDS the end of the eighteenth century and during the nineteenth century the public elementary school in Germany and in other countries became an instrument in the hands of the national or state administration — an instrument by means of which the state seeks to attain certain purposes or ends. Compulsory education is one legal expression of this control of the aim of the school by the state.

Now as long as we only pay attention to the aims and tasks of any existing

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state as it exists at present, our scientific pedagogy will not be able to give us any satisfactory solution of educational problems. But as soon as we regard the state as a product of evolution, as a community of people organizing for more and more useful purposes, a community that keeps trying by means of the activity of its members to make the way easier for an unhindered development of moral personality, a community that is moving along in the direction of such an ideal state as the science of ethics would sketch for us — if such is our idea of the state, then the scientific formulation of the aim of the elementary school follows naturally from a scientific formulation of the aim of the state.

A state that embodies moral ideals in its aims and institutions is the highest outward ethical good. For this is, as Locke, Hobbes and Spinoza have shown, a prerequisite in order that the individual may attain his highest inward ethical

good, in order that he may develop the real character of the free ethical personality. Why, it is often just in working for the realization of such a national ideal that the individual finds not only a glorious and worthy occupation, but also a valuable opportunity to work out his own ethical perfection. This conception of the state is of course an ideal. To-day most states are very far from this ideal. They may be at times even a hindrance to the development of personal ethical freedom. Very often a state may appear to the individual in its clutches to be the greatest evil rather than the greatest good. In his posthumous work "*Weltgeschichtliche Betrachtungen*," even such a clever man as Jakob Burckhardt allowed himself to sink to this statement, "The state is the greatest evil." Now the question is, Must this be so? And the answer is that we see mankind forever building up new and better states on the ruins of the old ones.

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Men are convinced that they are ever approaching nearer to the ideal of the state, as the safest retreat for ethical freedom, as the best guarantee for the inner and outer welfare of the individual. We firmly believe that history shows us a gradual evolution of the state along the lines of true culture and justice.

This raises the question as to whether there are not other outward ethical goods as important as that of the state. Now if we cast a glance over the domain of the science of ethics, we notice many differences of opinion in regard to other things, but this at least seems to be unquestioned, that the highest and most perfect outward ethical good is the organization of a community, which can make safe for each individual all that which is for him ethically good in accordance with his nature. Considering the criticisms, which my contentions have called forth from certain advocates of the so-called scientific pedagogy, it seems

best to me to attempt in broad outlines a statement of my position.

Each ideal, which we place before ourselves, should embody a possible condition for real beings, which can be achieved at some time or other in this world by human endeavour. This also applies to the ideal which we call the greatest good. Great difficulties will arise in the way of any attempt which tries to determine the greatest good for the individual as independent of outward conditions, as directly dependent upon the activity of the individual alone. The epicurean and stoical ideals were such attempts. Their ideals were achieved in a certain permanent state of mind, which was indifferent to the change of outward conditions. The state of mind in each case was of course different.

We cannot rest satisfied with this belief in the self-sufficiency of the individual. We know that man is by nature a social animal, that his mental

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life is influenced on all sides by association with his fellow men, that he is not self-sufficient and that he cannot live alone by himself. Further, we must remember that every vigorously thought-out ideal that follows from the universal nature of man, contains in itself the demand that it must be universally desired, as long as we are going to set it up as a universal ideal. From this point of view, therefore, our concept of the greatest good will broaden itself out to the concept of an ideal state for a human community. Whatever aim we set up is a common good, which all men equally seek and by which each man may be benefited according to his inner needs.

The aims of each separate individual are determined by the needs and desires of his mental and physical nature, which demands satisfaction and which determines just in what the individual will find satisfaction. Such needs and desires

include the care for physical well-being, the control and use of natural forces necessary for that, the sexual desires and the bodily and mental care for the offspring, the satisfaction of the social impulse by society, by love, by friendship, the pleasure felt in the approbation of others, the thirst for knowledge and freedom of thought, the pleasure arising from the beautiful and sublime, the activity of the artistic nature, the necessity for religious uplift and for the free inner formation of the ethical will. All these forces lie in man's nature. They are the great forces at work in history, and from each one of these forces with ever-increasing consciousness of purpose the great practical ideals of each age have arisen, and history is nothing but the realization of these ideals — industry and commerce, the family, the education of the young, social intercourse, science, art and religion. Our universal highest aim must be put together with these

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elements. Each special concept of the greatest good must pay regard to them.

We made the claim that the greatest good must be a universal aim; that each individual has his right to a share of it; that the aims of all must be at the same time the aims of each. From this it follows that in working for the common good each one will find his own satisfaction, and that he will of his own accord follow the universal principles, by means of which he expects the universal aim to be attained. The organization of that social condition, which is set up as the highest aim, must naturally contain within itself the means for satisfying the individually differing characters, and offer every individual the possibility of finding satisfaction in a manner according to his nature, *i.e.* not just his superficial nature but his ethically developed one. Each individual aim or ideal is justifiable only in as far as it can be regarded as a part of the common aim. Now the satis-

faction, which is attainable by all in the same manner, lies ultimately in the certainty that one is able to work for the aim that is far above the individual consciousness and its limitations, *i.e.* for a humanitarian and universal ideal; and in the knowledge of one's own value as a bearer of a higher ideal, as the instrument of a godlike will. Just here it is that ethics and metaphysics meet.

This social condition, in which the aims of the individual coincide with the common aim, a society which I can imagine as existing without legal paraphernalia, without orders and without prohibitions, this kind of a society I call a state. And as soon as it satisfies the previously discussed conditions, I consider it also the most ethical community. The other communities, such as the family, religious communities, etc., are of course necessarily contained in it, in as far as they are ethical communities. If this were not the case, then the numer-

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ous aims of the individual, to attain which he first of all comes together in smaller communities, would not be incorporated in the universal or common aim. The opposition that has always been raised against my contentions rests, in spite of my repeated and lengthy explanations of my concept of a state and my idea of civic education upon a misunderstanding. I mean education, for the realization of the ethical idea of the highest outward good by means of service for the state. I do not mean education that leads to blind service of a permanently rigid state organization. As soon as any one tries honestly to grasp this fundamental difference, any misunderstanding is bound to disappear.

Another misunderstanding will also disappear — a misunderstanding that is common to those who believe the aim of all education to lie in so-called character-formation, or, as Gaudig expresses it, in self-determination, in the determination

of "the ideal of the ego." Now if you set self-determination as the purpose of education, you must also fix the aim of this self-determination. There have always been educators who have seen in self-determination or autonomous character-formation the purpose of education. The more the pupil develops, the more must heteronomous education retreat, *i.e.* in the best system of education, the educator himself becomes gradually more and more superfluous. But this purely formal end of self-determination can never give us a tangible aim. There is nothing really valuable for the individual himself and far less for the community in personality regarded merely as the sum of inherited and acquired characteristics. Their value first arises in their influence upon the personality itself and upon the community. These personality-values are as a matter of fact of very varying worth and form an increasing series up to the highest value of per-

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sonality, which seeks and finds its life's purpose in giving itself up in striving to realize the common and highest good of an ethical community. The aims or ends of such personalities are contained in the common aim, which we have shown above to be the greatest good. It is precisely the possibility of working out the so-called "ideal of the ego," in as far as this individual ideal does not conflict with the common or universal ideal — it is precisely this possibility that forms one of the most essential characteristics of the greatest and common good. From this discussion we see at once how useless it is to divide education into individual and social education. The aims of the individual are necessarily contained in the general aim of the community, in as far as the community can be called the greatest good. There can be no ethical community without the majority of its members being ethical individuals. And further, there cannot develop a great

majority of ethical individuals, if the constitution and the general aim of the community are not based upon ethical principles.

I set up therefore this first hypothesis, that the ethical community is the greatest outward ethical good for mankind. And in connection with this there follows this second hypothesis, that a given state will progress in the direction of the ideal ethical community just in so far as the knowledge is spread abroad by public education that the highest outward and the highest inward ethical good stand in close relation to each other, and further, just in so far as all educational provisions are made from the standpoint of the ethical concept of the state. Conceding these two hypotheses, a given state will therefore determine the purpose and duty of the public schools in accordance with its own purpose and duty. Now the purpose of a state is twofold: firstly, an egoistical one, *i.e.* care for its inner

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and outer welfare and for the physical and mental well-being of its subjects; secondly, an altruistic one, *i.e.* a gradual working towards a state of humanity among mankind by means of its own special development to an ethical community and by actively sharing with all its might in the work of that larger community made up of all civilized states.

Whether we may make these altruistic demands of every state at the present time, is of course questionable. I have discussed this point in more detail in my book "Staatsbürgerliche Erziehung der deutschen Jugend." At any rate we may say that the altruistic aim cannot be of much value until the egoistic purpose of the state has been accomplished.

Now when I say that it is the business of the public schools (including of course the continuation schools) to try to educate the rising generation either by means of habit alone or by habit and understanding, in order that it may help in

this double function in accordance with its ability, I do not thereby set up a utilitarian aim, but an aim that is in the first place and in the greatest degree an ethical one.

I only call that man a useful citizen who serves his state always with regard to the twofold purpose of the state. Therefore it follows that I may define in a few words the purpose of the public schools of a state or the purpose of any education to be a training to useful citizenship. From this logically follow the duties of the school, and from these duties follows the organization of the school and likewise the organization of that type of school which we now call "vocational" or "industrial." The ways and means to accomplish the separate purpose wholly or partly through a school depend upon the outer and inner conditions that influence the physical and mental development of the pupil. From the sum total of these aims, duties, ways and means

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follows the concept of that school of the modern state which I call a “work-school” (vocational or industrial school). Now if we follow carefully all the duties and organization of a school, which must spring from our concept of the highest aim of the public school, we notice at once that all other justifiable purposes or aims of education are also compatible with this highest aim. This aim—a training for citizenship—is in short the whole purpose of public education.

It is obvious, for instance, that no one can be a useful citizen in our sense of the term who does not fulfil some function in the state organism, *i.e.* who does not do some kind of work which directly or indirectly is useful to the aims of the community. If any one in possession of bodily and mental health enjoys the blessings of the state organization without in some way or other helping according to his ability to further the common aim of the state, he is not only not

a useful citizen, but he is acting immorally. If any one uses his inherited wealth merely to satisfy his own pleasures, then he cannot usurp the title of a useful citizen, because, apart from the payment of taxes imposed upon all alike, he does not bring any work to add to the common pool of industry, to which he really owes the comforts and luxuries of his life. On the other hand, even the work of a scavenger may possess ethical value, if it is carried out with a consciousness of the necessity of this work for the community.

The first demand of an individual in the community is this, that he be capable and willing to carry out some function in the state, or in other words, that he be engaged in some vocation, so that he may directly or indirectly further the aim of the state. From this we recognize the first duty of the public school. It must first of all help each individual pupil to choose some work or, as we say,

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some vocation in the community and to fill this position as well as possible. This is not yet an ethical duty, but it is a necessary condition, so that the public school may then turn its attention to ethical duties.

The second duty of the school is to accustom the individual to look at his vocation as a duty that he must carry out not merely in the interests of his own material and moral welfare, but also in the interests of the state, which gives each individual the possibility of carrying out his work and of making his living protected by the law and order of a civilized community. According to the kind of vocation in question will it be easy, difficult or impossible to see in it a direct service in the interests of the community. There are a number of vocations where this altruistic conception surrounds them as with a halo. In regard to the others it will always be possible early to develop in the rising

generation a consciousness of the fact that each vocation can be looked upon as a necessary service to the community and that the undertaking of any paid work, however monotonous or modest it may be, carries with it the obligation of doing one's best.

From this follows the third and greatest educational duty of the public school. It must develop in its pupils the desire and strength in addition to and through their vocation to contribute their share so that the development of the state, to which they belong, may progress in the direction of the ideal of the ethical community.

These are the three obvious duties of our public schools, and they include at the same time the whole aim of education. Let us denote them shortly as:—

1. The duty of vocational education, or the preparation for a vocation.
2. The duty of teaching the ethical value of a vocation.

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3. The duty of teaching the ethical value of the community within which the vocation is carried out.

Since we cannot make ethical the community without making ethical those who form the community, so these three duties of the school necessarily include the ethical training of the individual.

CHAPTER II

The First Duty — Vocational Education

THE first and most important duty of the public schools (elementary, continuation and high) is to give vocational education or to prepare their pupils for a profession. This seems at first to contradict absolutely the present-day conception of universal education. And yet no less a man than Pestalozzi was filled through and through with this conception, although the ultimate ideal of education that floated before his eyes was that of universal culture for mankind. Pestalozzi is never tired of emphasizing this first and most important duty, although he does this from other motives than the ones I have described. As the child of his generation he could not free himself from the idea that the

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profession of his pupil was absolutely dependent upon the class in which he was born. Many parts of his last work, in which he collects the experience and educational ideas of his life, are full of this conception of the first duty of the public schools. The conditions at that time were much less complex than now, and it was only natural to believe that the inner organization of the elementary school should serve the aims of that class in the community to which the pupils belonged, and in which they would most probably remain.

These conditions have changed greatly during the last hundred years. There are no hard and fast lines dividing the classes in a community. Industry has brought about so many changes in the conditions of the workers that we cannot conceive as possible a pure vocational organization of the elementary schools, whose aim is the vague aim of Pestalozzi's universal human culture. To-day we

feel it more than ever that the duty of the elementary schools is to prepare their pupils for some vocation. Now the vast majority of the members of any state are employed in physical work, and this will be true for all time. For every human community has need of many more manual workers than brain workers. Again, the ability of the masses is not such as is adapted to mental work, but rather to manual work, from which indeed in the history of civilization mental work gradually developed. Manual work is not only the basis of all true art, but also the basis of all true science. A public school system which has to prepare its pupils for mental and manual professions is badly organized, if it has no means for developing the manual abilities of its pupils. A further proof of its bad organization lies in the fact that in the development of the child physical development precedes mental, and that, especially between the ages of

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three and fourteen, the instincts and desires for manual occupations are undoubtedly the strongest. I do not consider it necessary that arrangements be made for manual training (in addition to the bodily exercise required for health) in schools which prepare their pupils for purely intellectual professions, as is the case with a certain type of high school. Nor is it necessary for those who will in future life be almost entirely under the influence of intellectual motives and desires, when once their instincts for manual activity have died down, having achieved what is necessary in the development of the normal use of their limbs and sense-organs. There are people of this sort and there are vocations into which they fit. I can therefore conceive of a vocational school which has no manual training in any special workshop, or where no manual training enters into the curriculum even apart from special shop work. For all

other pupils, however, schools which are lacking in such equipment are badly organized schools. From our discussion we see at once that every elementary school must make arrangements for practical work by means of workshops, gardens, kitchens, sewing rooms and laboratories. By means of these the instincts for manual activity will be systematically developed; the pupil will be taught by actual practice to carry out his work carefully, thoughtfully, honestly and conscientiously. Only in this manner can a solid foundation be laid for his later vocational training by means of the continuation school, that is to say, by making him from the very beginning accustomed to do carefully thought-out and conscientious manual work. Or in other words, manual training in any well-organized public school must be recognized as an independent and legitimate subject of instruction. This recognition is not a degradation for the public school,

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but rather one of the greatest blessings. For a hundred years in Bavaria a great number of girls' schools have recognized manual training as a regular subject. For the last forty years Munich has devoted at least three hours per week to this. Never until the present agitation did any one dream of looking upon this instruction as a degradation of the girls' schools, nor was any one willing to have it struck out of the curriculum of the elementary schools for girls. Some one may raise the objection that knitting, sewing, laundry work, etc, is in a way the vocation of almost every girl; but that not every boy takes up in this way the same kind of vocation. That is quite true. But we must not conclude from this that therefore the school has no right to include in its curriculum any kind of systematic manual training whatever. If we make such a conclusion, we would also be warranted in arguing that because all men cannot thrive on the

same kind of food, we should therefore give them no food to eat.

A hundred years ago when the spirit of Pestalozzi still permeated German school organization, it was considered natural for boys, just as much as for girls, to have some kind of industrial training. These ideals were disturbed by the Napoleonic wars and pushed out of sight by the reaction that followed. Nevertheless, those ideas show to us at the present day a surprising knowledge and they are full of the most well-meaning intentions. A decree of the general school board of the Palatinate of Bavaria issued to the local school boards in 1803 gives us a good example of what is meant : "Certain technical accomplishments are more or less necessary for every person. It is therefore necessary to establish everywhere industrial schools for boys and girls, and for these to stand in connection with the ordinary academic schools. These industrial schools must

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not excuse those pupils from attendance, who take it for granted that they do not need to work in order to earn their bread; for, apart from changes of fortune, through which many lose their inherited riches, it is always good for every one to learn how to value the privilege of being able to earn his living, and how to respect those who know how to acquire a comfortable position by means of their industry and skill." Remember also that in those times the workshop of the father was in most cases in his own house. But the children of this generation, and especially those in our great cities, grow up without any manual training at home, and in most cases have not the slightest conception of their father's trade, and cannot therefore be seized with the magic of its blessing.

The essence of preparatory training for manual work does not lie in introducing into our manual training courses, tools, machines and materials that belong to a

definite profession. In the same way the essence of preparatory training for intellectual vocations does not consist in dispensing knowledge for a special profession. In both cases the essential thing is to form and practise those organs, mental or physical, which are necessary for the vocation, to form habits of honest work, of carefulness, of thoroughness and of foresight, and lastly to awaken a real joy in work. If any one gains these qualities in any kind of systematic work (*e.g.* woodwork), then he possesses them and uses them in any kind of manual work which his vocation later may call for. It is just the same as with the student who has developed a logical way of thinking, conscientiousness and love of truth by means of a study of Latin or mathematics. He possesses these qualities and uses them later, perhaps not as a philologist, mathematician or scientist, but as a lawyer, historian or philosopher.

From this primary duty of the ele-

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mentary school, *i.e.* a preparation for a vocation, follows logically, in the organization of our school system, the demand for professional and systematically arranged industrial training. This necessity is strengthened by the fact that the mental development of the masses, because of the lack of special intellectual gifts, must undoubtedly take place through and by means of industrial training. Now these manual professions, and especially the skilled professions, because their interests are so closely bound up with the interests of the state, require a practical knowledge of the four primitive tools of culture — reading, writing, counting and drawing — which we might call in a way mental accomplishments. Moreover, we must demand bodily health and to some extent a knowledge of the laws of nature and especially of personal hygiene, and for this purpose gymnastics and nature study must necessarily be incorporated in the curriculum

of our elementary schools. These are demands which we need not further consider in this book. On the other hand, we must emphasize this : the more closely the development of mental accomplishments can be associated with the development of manual accomplishments, the more perfect will be the organization of our school and the better will those mental accomplishments develop. If we could know very early what vocation a child would follow in accordance with his inclination and ability, if so many children were not dependent upon chance or custom in their choice of a profession, if interest in a special vocation did not develop so late or never develop, as is often the case now because of the industrial status of the parents or through other causes — if these hindrances were not in the way, then the best organization of our schools would be that in which the children would be grouped according to their future vocation. It would not

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be right to make these schools merely professional schools, but they could be organized so that the most important part of the school work would be a preparation for their future vocation, and this we have seen is the first duty of the elementary school. Further, if the vocations prepared for by these schools coincided absolutely with the vocations of the parents, then an ideal organization could be realized. This school would not be something foreign and strange to the life of the child. It would not be something isolated from the daily work of his parents. It would be rather an educational institution that would include within itself the daily work of the child's home, that would ennable it and would shed the bright light of intellect around it. Then could the teacher, as Pestalozzi in his last work pictured it, so weave his teaching into the work of the child's parent, as a weaver weaves a flower into his piece of cloth. But we have none of

these conditions at the present time, neither in our most purely agricultural nor in our most purely industrial communities. In most cases the elementary school must abandon this ideal of concentration. But the continuation school must not do so. It can and must strive to attain this ideal to a great extent, and Munich has shown the world that it can be realized.

CHAPTER III

The Second and Third Duties of the Public Schools

THE second duty of all public schools, that follows from the general ideal, is the teaching of the ethical value of a vocation. The ethical value of all actions, which are considered right according to the conscience of any generation, begins at that point where these actions are carried out, either for the purpose of raising our own inner personality, or from an altruistic desire to attain some outer ethical ideal. To teach in school as conscientiously as possible, because one is appointed teacher and paid for the work, has no ethical value. To do the same, not for the sake of money, but because to do it otherwise would lower one's own self-respect, has some ethical

value. To do it for the sake of the pleasure of the doing, for the inner uplift which we feel in this conviction, has more ethical value. To do it because one cannot imagine a more beautiful duty than in this way helping in the general uplift of mankind, has the most ethical value. The consciousness that our work, be it the slightest or the lowest, is carried out for the good of the community to which we belong, always adds an ethical value to our activity. To develop this consciousness in a school and to make it alive, there is no other means than what I have called the organization of the school in the spirit of an industrial community. Only in connection and in coöperation with the habits gained in this industrial community of the home or school can instruction in religion, history and literature (the so-called ethical studies of the Herbartians) be helpful for a development of the consciousness of the ethical value of work.

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This idea of the school as a free and independent industrial community has remained quite foreign to our German schools. It has only found conscious realization in some few elementary and high schools, either in the arrangement of the curriculum, or in the methods controlling school discipline, or in encouraging independent and voluntary work among the pupils for the benefit of the school itself. And yet it is almost a hundred years ago since Fichte in his "Speeches to the German Nation" told us that in industrial communities the coming generation would find its best educational means. For twelve years I have agitated for this and held up Fichte as an authority. I have pointed as a proof to the work of Dr. Lietz in his open-air schools and to John Dewey's brilliant experiment in Chicago, which lasted unfortunately for such a short time. England and America have grasped this idea of an industrial com-

munity much better. It is too true that even in those countries the real school training has an eye most of all to the development of the individual, as is the case in Germany. But we do notice in a great number of the schools of those countries that many questions of class or school discipline are intrusted to the self-government of the pupils, and the idea of a real community is further realized in many literary, athletic, scientific and artistic clubs or associations. We Germans have not yet sufficiently realized that school matters are of direct concern to the people. We have got into the hateful custom of being governed in all our educational affairs. Therefore we are still standing before this ideal without being able to show much activity towards its realization. We never even think of it on those very occasions when self-government by the pupils would be one of the most natural things in the world, *e.g.* at school celebrations. Such

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a thing need not be hindered by the fact that the usual book training of our schools — our reading, writing and arithmetic, our history, geography, literature and language teaching — is a very unsuitable foundation upon which to build up an independent industrial community. Something in this direction might be achieved in the two highest classes by means of adequate class and school libraries. Training in cookery and in gardening, real industrial training in workshops, in fact any kind of practical activity, forms the best foundation for the development of an industrial community, and these things are found only too seldom in our public schools. Similarly, regular practical work in physics, chemistry and biology also affords the possibility of organizing communal work, and these subjects are nowhere compulsory in our elementary schools.

When I gave expression four or five years ago to this idea of school govern-

ment, not the technical difficulties but the moral value of it was immediately questioned. It was urged that the best and most ambitious pupils would continually obtain the leadership of the community; that the great mass of children would be, as it were, hypnotized and compelled to follow, or else voluntarily trot tamely behind like a flock of sheep. Certainly the best boys would get the leadership, and they ought to have it. I have watched them often enough in our school exercises based on the principle of self-government. Why, it is just the business of the school to teach these leaders how to exercise the duties of leadership in the service of their weaker brethren! Would any one advise the breaking-up of the self-government of a nation simply because people can be divided up into leaders and followers? To the logical thinker this phenomenon is one of the most important reasons for introducing self-government into the

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school. Of course in introducing such a principle we take for granted a deep insight on the part of the teacher into the workings of such a community. We dare not form such communities before our pupils have attained a certain minimum of intellectual, manual and moral capability in the department of industry in question. Again, we should not bind together into the same community elements which are too unlike, and we must always give careful attention to the great egoists, who always exist everywhere. Now and again we would take the leaders of all groups, in as far as we have organized industrial communities in our classes, and form them for some special subject into another industrial community so that they would not continually have the feeling of special ability and power. And above all the teachers of such a school must be saturated with the spirit of an altruistic industrial community, which they form among themselves and along

with their pupils. It is this last that will prove one of the greatest difficulties in carrying through this project. There may be a great deal of idealism among teachers, but an idealism that leads to willing sacrifices outside of scheduled school hours is, as is the case in all other professions, not so very common.

If the spirit of the paid laborer dominates the teachers of a school, pupils will never be influenced to band together into industrial communities outside of the regular teaching work, and if they should do so, such communities will only too easily be lacking in the needed ethical value. But on the other hand, if the pupils of a school are moved with the real spirit of an ethical industrial community, this very spirit itself will be the most brilliant testimonial of the inner ethical value of the teachers of that school. The springs of moral self-sacrifice run dry only too soon, unless they are constantly fed by the example of those

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who make up the environment of the pupil.

If this principle of an industrial community is realized, we not only bring to bear the greatest forces in raising the ethical value of a vocation in the eyes of our pupils, but there will also be developed a whole mass of valuable qualities which could otherwise scarcely have been nourished in our ordinary school life. Because of the manifold points of contact with each other, into which an industrial community continually brings its pupils, there is developed a characteristic which I shall speak more about in a later part of my book. This is sensitivity or acuity of perception and feeling, which is in itself no moral quality, but which is of the highest value for the development of character. Furthermore, another moral quality, especially in regard to the best pupils, is put to the test in a way that is impossible in our present school system. I mean the consciousness of responsibility.

Not only the leaders of the separate groups but each member of them is daily made aware of the fact that the work done is of importance for him as an individual, but also goes to make or mar the quality of the work of the whole group. Our present-day schools are hardly able to awaken the pupil to the idea of responsibility, far less are they able to produce in him a real live feeling of responsibility. If the industrial community of the home did not at the present time take unto itself the lion's share in this regard, then this quality so necessary for a useful citizen would disappear more and more.

Now a school must be able to awaken the ethical feeling of self-sacrifice by means of its industrial communities and the ethical instruction based upon these, before it can grapple with the third and last duty of a public school, *i.e.* the duty of helping to raise the ethical standard of the community in which the pupil lives and in which he will carry out his

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vocation. This is the highest aim in the civic education of youth and must be the highest ideal of our public education. The important thing to be achieved here is to accustom the pupil as early as possible to work for some idea or ideal. The elementary school can do little more than build up this habit by means of its industrial communities. Attempts made by means of history or ethical instruction to teach the pupils the duties of citizenship and the principles of ethics are on the whole useless. Our pupils are too immature and mostly lack the necessary mental intelligence. Greater possibilities in this direction are open to our high schools and to the higher classes of our industrial continuation schools, in which latter a more intelligent class of scholars are found because of the more professional nature of the work. For this reason, compulsory continuation schools where civic education is given, are a necessary consequence if we wish

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to perfect the organization of our elementary school system. How this addition to our educational system should be arranged in order to fulfil its third and last duty I have described elsewhere.¹

¹ Cf. "Begriff der Staatsbürgerlichen Erziehung" (2 Aufl. 1912, Teubner), "Grundfragen der Schulorganisation" (3 Aufl. 1912, Teubner, Leipzig), and "Staatsbürgerliche Erziehung der deutschen Jugend" (5 Aufl. 1911, Villaret, Erfurt).

CHAPTER IV

The Methods of the Industrial School

THE foregoing discussion of the three duties of the public school, which we deduced from the ultimate aim of that institution, has led us to a rough sketch of the inner organization of the industrial school, as I called it in my speech in Zurich four years ago. However old the expression “industrial school” may be, yet I think I may claim that the content I have given it is different from any previous content.

We have not yet exhausted the whole content of the expression in our discussion above. Those three duties and the organization arising from them have shown us the direction in which the public schools must go to achieve this character training. From this we have obtained

the first series of characteristics that arise from the idea of a vocational school. A second series of characteristics arise from the intrinsic nature of this character training. Now in investigating this we are standing on the threshold of the most fundamental problem in education. This is not a question of the aims to be attained, but of the physical forces in the pupil, which must be called upon and which must be directed. Which of these forces are unchangeable and which are changeable and therefore open to the influence of training? How must this influence be brought to bear, so that the personal disposition may be ethically developed and so that at the same time no valuable qualities may be suppressed or neglected? In a book of mine on the idea of character¹ I have sought to find out these physical forces and to group them together under a new concept,

¹ Cf. Kerschensteiner, "Charakterbegriff und Charaktergestaltung" (B. G. Teubner, Leipzig, 1912).

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which I have called the concept of the "intelligible character." There are four forces whose presence gives us the possibility of being able to train a useful character. These are strength of will, ✓ clarity of judgment, sensitivity and initiative power. These forces or powers are like all physical forces not absolutely independent of each other. The last one in especial would seem to influence to a great degree the three others and is on the whole, I imagine, an unchangeable disposition.

The development of the first three qualities demands above all freedom of activity and a coming in contact with ever-changing conditions. The will can only be developed by willing actions, and if the will is to be strengthened, it must have freedom in action. If the intellect is to learn how to judge clearly, it must as far as possible through experience work up its ideas and concepts. If sensitivity is to increase, reason and feeling must

be brought early into contact with manifold experience in order that they may become accustomed to react quickly and in order that the variety of response may be great. The passivity and receptivity developed by our present-day schools hinder the development of these three forces, and very often direct them into other channels where the difficulty of guiding them ethically is greatly increased. It is of course true that the old battle-cry of Pestalozzi — “self-activity for the child” — is continuously on the lips of our teachers to-day. Now this self-activity in the usual word and book teaching of our common schools is non-existent, and even where some self-activity does really exist it is bound down into a prescribed channel as far as the three principal psychical forces are concerned. It is unfortunately more like the self-activity of a machine than that of a productive worker.

The slight influence of such a school

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system upon the formation of character cannot long remain unnoticed. Our cultural, political and social life requires always more and more individualization. There is an increasing consciousness of the growing dearth of disinterested independent men. The people as a whole are failing to grapple adequately with the problems that they have to solve. All these things show, as Lichtwarck has pointed out, that modern German education¹ is wanting in creative power. We are learning every day the importance of practical initiative, which cannot be replaced by any other quality — of initiative that is governed by high ideals. This quality can never be developed in an educational system that lays down an absolutely definite path which the pupil must take. And so the cry for introducing practical work within our schools is becoming louder and louder. First of all, there

¹This is equally true of American and European education in general. (Translator.)

was a demand for manual training in the narrow sense of that word. Then there came the idea of industrial training, and at first it was understood in the sense of combining a great number of manual activities with all the conventional subjects of instruction. This conception of industrial education as being instruction in mere manual work showed how little of the essence of the idea of industrial education had been grasped. At the same time a great many school directors refused to recognize even this manual industrial training as a proper subject of instruction, and in putting it thus to one side they spoiled entirely the influence it might have had upon the formation of character. In three meetings of the German Teachers' Association an anathema was launched against the incorporation of industrial training in the regular curriculum. At the same time the movement for training the hand had caused many teachers to pay great atten-

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tion to manual work in the narrowest meaning of the term. This being the state of affairs, it can easily be understood that the new movement for real industrial training was a long time in establishing itself. The real inner meaning of industrial training had not led up to these efforts at manual work, although kindergarten occupations, the training of hand and eye, the old demand for self-activity — all these things led to the recognition of the principle of industrial education. Since work is generally a manual activity, it was thought at first that the problem of industrial training would be solved by attaching some manual activity to each conventional subject of instruction. For example, it was thought that one had given the character of industrial training to history lessons in the higher classes by the modelling of old castles, by fret-work copies of old architecture, by drawing plans of battle-fields, etc. This new principle was made responsible for il-

lustrating epic poems and biblical stories. Now just as little as you learn the categorical imperative by drawing the portrait of Kant, do such manual activities partake of the spirit of industrial education. All instruction, which must depend upon facts handed down by tradition, as in history, religion and language, can only be useful for the formation of character by real intellectual work. Manual work is only useful where the ideas and knowledge arise from facts of daily experience, where the matter for building up images must be won from sense-experience. All intellectual pursuits that have developed in the course of time have their specific method of work. The principle of activity is only then upheld, when the work of penetrating into the circle of ideas and method of thought of this subject matter coincides with the specific method of work, which has been developed with psychological necessity by this subject itself. There are many

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forms which the true principle of productive work may take in different subjects of instruction. It may take the form in history of using accounts by contemporary authors, of reading historical documents, etc.; in literature by allowing the pupils to act and recite the plays and poems and thereby penetrate into their deeper meaning; in social communities by giving the pupils opportunity to develop their sense of refinement by means of social functions; in chemistry, physics and biology by giving the pupils a deeper insight into natural laws by means of actual experiments. All these methods use the activity that is specific and natural to the subject of instruction.

On the other hand, it is not in accordance with our principle of work, if introduction to some manual technique, like writing or drawing, is prepared by means of other technical activities, as, for example, laying beans in rows, putting together chips of wood or clay-modelling.

At the present time these pedagogical misconceptions are so general as to be able to support large factories for the manufacture of school materials. Even Basedow had to acknowledge before his death that making letters out of dough did not help in learning to read or write. There are other methods which seek to divide up the work as these methods do, and lead to a development of perception of form and imitation of form. At the same time they do not contradict the psychology of industrial education. These are excellently set forth in Maria Montessori's "Il Metodo della Pedagogia Scientifica."¹ Mere manual activity, that pays no attention to the fine physical and psychical relations underlying the activity, or to the systematic training of the will and judgment in connection with it, can form no criterion

¹ English translation — "The Montessori Method" — from the Italian by Anne E. George. (New York, F. A. Stokes Company. 1912.)

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for our industrial school, however much such activity may bear the stamp of actual work.

Such manual occupations as we have described may be useful and sometimes indeed necessary as a means to demonstrate some lesson, or to train the senses, or to satisfy the strong impulse of the child for doing things, or to enliven some otherwise dull lesson. And yet we do not thereby introduce any new educational principle into our schools. The most that we are doing is to carry out an old principle that has been terribly neglected. But we do introduce a new educational principle, which up till now has been foreign to our schools, when we make manual activity a systematic tool for the training of the will and the sharpening of the judgment, and of course only employ it where the nature of the subject itself makes it seem necessary. This can only be accomplished when it leads the child at every stage to use his inherited capacity

for expression to reproduce with precision what he feels, sees and thinks, and when at each step ever greater demands in exactness and skill are made.

Industrial training as a principle and as a special independent subject of instruction belong together as indispensably as the blade and handle of a knife. Whichever the demand for technical ability is recognized as a principle underlying the instruction, then a corresponding technical training should follow as an absolute necessity. It is quite consistent to disagree entirely with industrial training, but to recognize it as a principle of method and to condemn it as an independent subject of instruction is absolutely illogical. Since Pestalozzi's time attention to oral expression has been recognized as a principle of instruction and also as a special subject of instruction. His demand of "every lesson a language lesson" would not have much use, if there were not at the same time special lessons for

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training in oral expression. We do not only demand correctness in oral and written work in every lesson, but we devote a good bit of time to special language lessons. Now in the same way I set up eight years ago a principle that has been universally recognized — “No object lesson without drawing.” This principle would be of doubtful value for the development of the ability to draw or of the æsthetic sense, if we did not at the same time have special instruction in drawing, which systematically teaches the pupils certain technical matters, without which their drawing would always remain clumsy and amateurish. Again, if we acknowledged number as a general principle that did not need special instruction and practice in manipulation of arithmetical rules, we would soon find that the vague content of the ideas of number gained in general instruction would be absolutely useless for forming clear number concepts. Again, we re-

quire systematic exercises to give the will power over the control of the muscles. Without such exercises our girls' dances in the higher classes of the elementary school would remain forever on the level of the free play of the child. Now the capacity for spatial expression as developed by manual work, looked at as a capacity possessed by the mind, does not differ in the least from the two other capacities of oral expression and expression by drawing. If any one considers it of less use than these two latter capacities in reference to the ultimate aim of education, we can, although with some difficulty, understand this position. But if any one values it highly and considers its cultivation necessary for education, then he must surely draw the same consequences as he has done in reference to the two other capacities of oral expression and expression through drawing. He should consider it likewise worthy to be a subject of special instruction. These considera-

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tions lead us to consider now a new fundamental characteristic of the real industrial school as a school for the formation of character.

CHAPTER V

The Technical Teacher and Professional Industrial Instruction

WHATEVER the school may take up in following out its aims, and in whatever manner it may arrange its subjects of instruction, the essential principle in the school is to lay increasing stress upon the careful carrying-out of all activity, by means of which will, understanding and sensitivity are to be developed. The training of the will must lead to this irrevocable demand, that no work shall leave the hands of a pupil without bearing the mark of intellectual or physical effort. This is the great difference between the manual activity of the elementary school and that of the kindergarten, in which latter pure child's play is the moving force in instruction.

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The very worst influence in the training of the will is exerted, if children are allowed during their seven or eight years of schooling to form the habit in one, not to mention in all subjects of instruction, of doing a thing "just about" or "almost" correct. Nothing leads to this habit more than the recognition of industrial work merely as a general principle, although this result is not logically necessary. For in ninety cases out of a hundred our general principle sinks to paying attention to mere trifles and fossilizes as we go up the grades into careless dilettanteism. The whole training of the will is a summation of infinitely many and infinitely small efforts of voluntary attention directed in the same way. In the ethical battles of later mature life, that man remains the victor who is able to direct his voluntary attention again and again to those ethical motives which set free the decision to act. Now we all know that it is much more

difficult for children than for adults to concentrate their voluntary attention. And they are not learning this difficult task if they are again and again allowed to do their manual work "almost" right. And further, this is not the only bad result, but there creeps in the habit of being satisfied with their own careless work, in spite of all the imperfections which it shows.

This danger can be averted by systematic industrial training through the grades. It must strictly enforce care and exactness in all the work, which in turn must be suitable to the age of the child. The intellectual, moral and manual habits which are acquired by this training are unconsciously carried over to any manual activity that may come up in the other subjects of instruction, and they drive out harmful dilettanteism here as well. Children that have been so trained absolutely refuse to undertake work which they can only imperfectly accomplish.

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The carefulness of expression that they have learned in their industrial training they try to carry over to tasks set them in other lessons in as far as their powers are able to cope with such tasks.

Speech and gesture, drawing and modelling (with any kind of material), are all methods of expression. They all serve in the training of the will and the judgment, only when systematic practice teaches the pupil to increase his capacity for expression and accustoms him with the greatest possible independence to seek for the only suitable expression for his thought or his work. Right here do we find the essence of the principle of industrial instruction. The direction that our character takes depends upon how we do our daily work. Each bit of superficial work that leaves our hand, each time we let ourselves say, "That is good enough," has an influence upon the development of our will. Now as long as the child is really playing, all doing by

way of suggestion, *i.e.* not carrying a thing out conscientiously, is not only allowable but is necessary. For in pure play manual activity forms merely the basis for the free play of imagination. The products of any work have in this case only a symbolical meaning. They are not the aim of the activity. But the school must turn play into work, and here the products of work have real value. Here they are the declared purpose of the activity itself. Now since character is formed solely through action, it must be the chief care of the educator to see that all action should bear the stamp of thorough reflection, of the greatest conscientiousness and of absolute honesty. It is not of any importance what we let our children do, by means of what technical instruction their manual skill and capacity for expression is developed. One or two technical subjects of instruction are quite sufficient. The only thing that we must insist on is this, that the

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subjects chosen must allow the development of ever-increasing accuracy that can be controlled by mechanical means by the pupil himself. It is a crime to set up the principle of industrial training not based upon these two characteristics of accuracy and conscientiousness. In Munich we made experiments in industrial instruction in this sense of the term, and we found that even with six-year-olds this demand for the greatest possible accuracy did not in the least interfere with the joy of the work, but on the contrary it seemed to increase enthusiasm for work from month to month. This has convinced me that from the very beginning we must carry out the work in this spirit.

This being the ground upon which our principle of industrial training stands, we must naturally conclude that from the very beginning the free activity of manual and psychical forces must be made systematic. He who cannot control the

means of expression will never be able to express the simplest of things. Mechanical practice in the systematic use of the means of expression is a prerequisite for useful free activity or for any productive work. And for this we must make use of the instinct of imitation. It is interesting to note that those men who possessed the greatest gift for expression, I mean our most famous artists, were at the beginning of their career practically nothing but imitators (*e.g.* Dürer, Raphael). Their strength developed by means of conscientious and untiring study of the means and methods of expression employed by others, until ultimately they gained that freedom and power that gave to us absolutely new works of art. The pupil must first have gained sufficient skill in the use of the means of expression before the teacher should give way to the initiative of the pupil, and even then this should be done gradually. And this is the

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second fundamental rule in carrying out the principle of industrial education. Of course this rule must not be taken in the sense of prohibiting all free unhindered activity of the child. This free, unhindered activity is at the basis of all play. It is useful for stimulating thought about more serious activities; and it may occasionally be made use of to let the child feel his deficiency in controlling the means of expression. For example, in the lower and middle grades, besides systematic work in drawing, it is quite good now and again to let the child give full reins to his initiative and draw what he likes. Yet we must never forget that constant illustrating of stories and unsystematic drawing will very easily spoil such slight ability for drawing as most children possess.

We have up till now laid down some such general demand as this, that for the sake of the formation of character the principle of industrial training must

be carried out in mental and physical work. Further, our aim for the elementary school demands that there be introduced special industrial courses for the careful development of the purely practical and manual capacities of the child. But it would seem impossible to demand of our teachers that they be further burdened with the acquiring and the teaching of some special industrial subject. What conclusion must we draw from all this? Simply this, that in our industrial schools we must have besides our ordinary theoretically trained teachers a second class of teachers who have been technically trained.

No other way is possible. For the highest grades of the elementary school such a teacher can be carefully selected directly out of some actual industry and given some pedagogical instruction later on. In Munich, Paris and Stockholm this scheme has been tried and has proved workable. But this is not a per-

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manent solution of the problem. We must ultimately have technical instructors with the same normal school training as the ordinary teacher has. This is quite possible at any rate for the purposes of the elementary school (for instruction in continuation schools this would not be sufficient). The manual training high schools of the United States, which prepare technical instructors for the elementary schools as well as for the manual schools, prove my contention sufficiently. Such a normal school for technical instructors would have to lay most stress upon a practical technical training, including physics and chemistry, in addition to a thorough grounding in pedagogy, psychology and ethics. The normal school for theoretical instructors would include as it does now a training in pedagogy and the usual subjects of instruction. Both schools can easily come under the same institution, for the chief subject of instruction, *i.e.* peda-

gogy with all its dependent subjects, is common to both groups of teachers. At the same time it would be of infinite value to the ordinary teacher voluntarily to give some of her time to a training in some manual work in order to develop her manual skill. Of course the technical instructor will teach all the technical subjects in the elementary school as well as drawing and laboratory work in physics and chemistry. Yet in as far as the rest of the school work is based on the principle of industrial training, *i.e.* in as far as industrial instruction enters into all the other instruction, manual activity will certainly play a part in the work of the theoretical teacher. She cannot afford to neglect manual skill, even although she is not so technically trained as to be able to conduct with sufficient thoroughness the special technical instruction. If this way is chosen for the education of technical instructors, no new element will enter into

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the elementary school, and at the same time the training of instructors for special purposes can be much more thoroughly accomplished. It has always been a puzzle to me how elementary teachers, in contradistinction to high school teachers, are able in one and the same breath to demand instruction in new departments of knowledge and technique and at the same time an essential deepening of their education. These two demands are really diametrically opposed to each other.

This demand for technical teachers contributes no new factor to the elementary school. We have had the same thing in our girls' schools for at least a century, where technical lady instructors and ordinary teachers have been working together. France, England, Sweden and the United States have technical teachers in their boys' schools as well. Where there are no special normal schools for technical teachers, as in France, professional technical workers

are often appointed to give instruction in the higher grades.

In the eighteenth general meeting of the Bavarian Teachers' Association at Regensburg, Gutmann said, "The greatest mistake that can be made is to introduce into our schools in addition to the conventional subjects of instruction technical subjects taught by technical workers." This conscientious but obstinate opponent of the industrial school knows very well that our normal school course cannot support any more subjects of instruction. The curriculum needs rather to be lightened. And yet rather than draw the conclusion that the burden could better be borne by two pairs of shoulders, he disapproves of the idea of introducing any kind of professional industrial instructors. If that is so, then educational fallacies on the part of boards of education have led to the appointment of technical teachers for dressmaking and cookery. We must banish from

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the German schools their numerous drawing teachers, from the Swedish schools their excellent gymnastic instructors, from the American schools their numerous singing teachers, and all the different types of special teachers for housekeeping such as I saw at Glasgow and Edinburgh. According to this man's reasoning, we must make out of every teacher a skilled mechanic, a gymnast, a singer, a drawer, and so on in addition to the usual demands that he shall study science, geography, history and languages. The German teacher must understand this necessity for special technical instructors, and unless he is willing to welcome them he cannot hope for a deeper training in his own department. The industrial school is the school of the future. It will come and it must come in spite of all opposition. Whether it will develop into a blessing or a curse for our people will depend upon whether we install technical teachers in our schools who will

bring with them conscientious, honest manual work which they have learned how to perform through long years of experience. The technically trained teacher is the logical consequence of the demand that our elementary school should provide for a training towards ethical character in the great mass of children, whose intellectual powers are not sufficient to make intellectual work alone the school for the formation of character.

Our special or auxiliary schools, in which very often the instruction in manual work never rises above the level of play, could also be much better organized, if we could supplant the present-day dilettante by the technically trained instructor.

CHAPTER VI

Summary and Conclusion

IT is the great desire of all earnest reformers of our day to make the elementary school an instrument for the formation of character, even for the great majority of intellectually weak individuals. The experience of past centuries has taught us and is still teaching us that the cultivation of that memory knowledge, which is the predominating spirit in our present-day elementary and high schools, will never lead to the building-up of that kind of individual which modern states have more need of every day. That experience has taught us that emphasis must be laid less upon the cramming in of knowledge and more upon the development of intellectual, moral and manual abilities; that our

schools must develop the mechanical abilities, inculcating at the same time a true knowledge of their uses, so that we may have at all times honest and conscientious workers to carry out and perfect the work conceived by the creative mind; and lastly we have learned that this way is the only way to educate the greater part of the nation so as to produce men and women endowed with strong and honest wills.

The industrial school is an organization which places the formation of character above everything else. Just because this is its chief purpose, it tries to arrange a curriculum that will banish from the schools the overcrowding and the superficialness of knowledge that goes along with this. The organization of such a school will arrange its instruction so as to allow the child to get most of its knowledge through experience, and by this very means builds up a strong defense against the overburdening by too much

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traditional knowledge. The idea of the industrial school is by means of a minimum of knowledge to build up a useful citizen endowed with a maximum of skill, ability and joy in work.

Starting from the highest outward ethical good of a community, from the ideal cultural and just state of ethics, we have found that each elementary school has three and only three principal problems to solve :

1. Preparation of the individual for his future vocation in the community.

2. The making ethical of this vocation.

3. To make the individual able to join in the common work of raising the ethical standard of the community of which he is a member.

This determines the ethical side of the educational duty of school. This determines the direction which the school has to take in the formation of character. Two chief conclusions follow : The principle of industrial communities and the

recognition of industrial training as a special subject of instruction. We have seen that this demand for the formation of character is a demand for the training of a strong will and a clear judgment and that this requires freedom and variety of activity in all subjects of instruction. In all departments of empirical knowledge we must abandon the methods of present-day instruction and change them into methods of personal observation and experience. Further, the principle of industrial training in as far as it includes manual activity must not be mechanically carried over and applied to the conventional subjects of traditional knowledge. We have further seen that this principle of industrial training, if it is not to lead to mere superficial work and thereby become dangerous, but is to be really useful in the formation of character, requires recognition as a special subject of instruction and requires also a new type of teacher, the technically trained instructor.

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Last of all we have been taught this ultimate and most important fact, that the basis of all training of character lies in the development of a sound judgment, or, what is the same thing, in the ability to think logically. This can only be attained by independent intellectual work. Independent intellectual work is more a characteristic of the industrial school than is independent manual work. Only, we must bear in mind that in the elementary school the boundaries of such work cannot be set very wide. Nevertheless, this remains the most essential characteristic of the industrial school. Manual work even in the elementary school must encourage independent intellectual activity. This necessitates an abandonment of the old methods of dispensing knowledge in favor of an active working-up of all material for knowledge, wherever and as far as it is possible. This means an essential curtailment of the number of subjects in our curriculum,

the introduction of suitable places for intellectual work and of libraries for history, geography, natural history and nature study, and lastly a corresponding intellectual training for our ordinary and for our technical instructors. To change our habits of empirical thinking into habits of logical or scientific thinking — that is the fundamental characteristic of the industrial school just as it is a fundamental necessity in the formation of real character.

That exhausts for me the necessary attributes of the concept of the industrial school. We can see at once that this new school does not mean a complete break with the past, that it does not demand the impossible and that all the good that our present schools bring us will find ample room in the school of the future. Any other demands that the new school may make will come from the didactical side. Now didactical questions are partly questions of child psy-

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chology, partly questions of opinion, partly questions that depend upon local, temporal, economic or other conditions. I cannot enter into all these didactical considerations. I shall only touch upon one of them, the question of the concentration of the whole school instruction. In principle, this question is answered by the demand that the school shall be the place of preparation for the future vocation of the pupil. This may of course mean very little in the elementary schools of a city, where the pupils of one and the same class will gravitate to the most various kinds of manual work, which cannot from the beginning be predicted. It may on the other hand mean a great deal in a small rural community where boys and girls are destined to follow some agricultural work. Every one knows that concentration is a prerequisite for success. That does not apply to that superficial concentration of many of our school schedules, but rather to the inner con-

centration which during one and the same lesson directs its activity to as few things as possible. It is a distortion of the idea of concentration, however, to give up the separate subjects of instruction and to try to mass the whole material together into a purely arbitrarily arranged system. All human knowledge has in the course of time divided itself up into independent but well-connected departments arising from the organization of our psychical functions. If we keep to the arrangement that is inherent in the knowledge itself, we will get out of it whatever educative power it possesses, and only in that way will it help to develop the clearness of judgment so necessary for the formation of character.

It is only the man who has no idea of the educative power that lies in a well-rounded, closed system of knowledge, who would smash to pieces this crystal-like building with the bright light of knowledge shining through it and set

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in its place for the purposes of his curriculum the heap of broken glass, through which only a diffuse and dim, uncertain light can shine. Even in the special industrial subjects the method and course of instruction must be determined by the nature of the subject itself. It is senseless to interrupt in its systematic development the regular course of a subject undertaken to train the will and give practice in elementary mechanical processes of work merely for the purpose of arranging some so-called concentration with the other subjects of instruction. Concentration must never disturb the peaceful development of capacities that will later become necessary. This of course does not by any means exclude manual activity in other subjects. A systematic course in drawing must go on in the way mapped out for it according to psychological laws without paying any attention to other subjects. At the same time, however, drawing ought to

be used as a means of expression in all other subjects from the very beginning.

This shows in general outline the organization of our future school. I do not think we need feel in helping with all our might to pave the way for the development of such a school that we are in any sense of the word revolutionists. I feel that we are rather helping to victory old, very old, pedagogical demands, by striving in our public schools to exert some influence upon that great mass of people, for whom exclusively intellectual work can never be the sole means of education. Above all, I have the feeling that in our endeavour we are working in the spirit of the man whom we have praised so much and understood so little, who told us so often in "Leonhard and Gertrude," in his letters to Heinrich Gessner and in his last book, that only work in the child's environment gives the elementary school its educational power. I venture further to say, even although we find it nowhere

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expressly stated in his works, that Pestalozzi was of the firm conviction that vocational education was the gateway to the real education of mankind.

Three generations have passed away since his death. His work still awaits completion. In a speech on January 12, 1818 to his house, he said : "I believe I am right in saying that the century which saw at its beginning the start of our educational activities will see at its end the uninterrupted continuation of our work in the hands of men who will give thanks to the united efforts of our house for their opinions and for their educational methods." The sands of thoughtlessness have piled up mountains over the truths that once filled and stirred the heart of that tireless worker for the education of mankind. But real truths like spirits rise up again and again from out their graves and wander up and down and disturb the heart of man, until they ultimately find peace and salvation in their

realization in real life. All those of us who work with true earnestness and unflagging energy to pave the way for the school of the future, who keep always in mind "the father of the elementary school," are helping to bring the desired salvation to these spirits. Let us hope that the end of the twentieth century will see perfected and will be able to enjoy what he in desperate struggles and in dire necessity started to fight for at the beginning of the nineteenth.

APPENDIX

An Example of Industrial Training in the Elementary Schools of Munich

INDUSTRIAL training in the spirit described in the text has been organized in Munich in all the continuation schools and in the highest classes of the elementary schools. The state board of education agreed to the carrying out of the plan in all the classes, but the local board has up till now refused to grant the relatively small amount of money required for this purpose. Last year they agreed to give a small amount for the organization of a series of four trial classes. The refusal to grant money for a complete organization of this scheme, as was carried out in the continuation schools, can be explained partly by unwarranted fear of the expense, and partly

by warranted anxiety to keep up the standards of the present-day "book" school. This anxiety was perhaps occasioned by the numerous distorted ideas and propositions, which the literature on industrial training can show, and also by the absolutely false ideas of the essence of industrial training which have been common in the whole of Germany during the last four years. This refusal on the part of the authorities I do not consider as a misfortune, so long as the trial classes are earnestly and sincerely supported. For the spirit of the industrial school demands an essentially different type of normal school training from the one in vogue at present. As long as the instructors themselves are educated in "book" schools, there can only be a few who will be able by means of their own force of character to enter into the spirit of the industrial school. But if the normal schools are once filled with this spirit, it will be transferred

to the elementary schools without opposition. The expenses incidental to this kind of school are not so great as to prove any real hindrance to it. This has been proved in the organization of the two trial classes which are now held in Munich, and which I shall now briefly describe.

If the industrial school really denotes an essential advance, if the carrying out of the principle is to increase the active interest of the pupil in all subjects of instruction, then we must of necessity achieve in our industrial school, with less time devoted to formal instruction, as much as has been achieved in our present-day school, which devotes much more time to formal lessons and very little to active work on the part of the pupil. Accordingly the time for formal instruction in the first and second grades was in the two experimental classes shortened to four or five hours. Again, it was necessary to divide the classes, which con-

tained forty-four and fifty children respectively, into two divisions for a great many of the lessons, so that each division could be taught independently. For the actual working up of new ideas and the manual activity necessary in many subjects of instruction could only be successfully carried out with small classes. An absolute division of each class, *i.e.* the setting up of a rule that no class contain more than twenty-two or twenty-five children, is by no means necessary. If it were so, no board of education at the present time could seriously consider the introduction of the industrial school. It is useless to point to the small classes in Sweden or Denmark or in some parts of the United States. The relatively small salary offered to teachers in those lands makes the introduction of small classes much easier than is the case in the large cities of Germany with their relatively high salaries. Now a competent salary for the teacher, making his position secure and

giving him joy in his work, is much more important for the spirit of the industrial school than the adoption of a very small maximum number of pupils per class. The adoption of this latter rule would at once double the common school expenses of a city like Munich. Such a small maximum is also by no means necessary for the establishment of the industrial school. For this school has not only to introduce the child to the world of knowledge but also to control the practice of the knowledge and accomplishments. Now in practising something the number of pupils working together is not of the greatest importance. Even in introducing them to new knowledge there are certain subjects of instruction where at the same time forty or fifty pupils can be handled, I mean in such traditional subjects which will always have to be taught by means of words and books, and where the book and the thinking over its content will

form the whole intellectual work. To this group belong history, religion, certain parts of language instruction and certain parts of geography.

The division of the classes was made for two periods of object lesson work, two periods of arithmetic and two of writing, so that while the pupils had roughly seventeen periods, the teaching was spread over twenty-three periods. The two divisions were called A and B. Division A came to school at 9 A.M. and division B at 10 A.M. From 10 to 11.30 both divisions worked together. At 11.30 A was dismissed, while B remained until 12.30, receiving that instruction which had been given to A from 9 to 10 A.M. In the afternoons of Monday and Thursday there was one hour school for each division : A from 2 to 3 P.M.; B from 2.40 to 3.40 P.M.

A copy of the weekly schedule is printed on page 96. The following points are to be noted : The length of each period

is put after the subject in brackets. Pauses between lessons are not shown. The subjects of instruction in heavy type are those given to A and B together. Division B has of course the same subjects of instruction from 11.30 to 12.30 as A has from 9 to 10. In other words, division A had school from 9 to 11.30 and B from 10 to 12.30 every morning; besides this, on Mondays, and Thursdays, A had school from 2 to 3 P.M. and B from 2.40 to 3.40 P.M. Only on Wednesdays and Saturdays were the two divisions taught together from 9 to 11.30 A.M. Besides this A had from 11.30 to 12 on Wednesdays and B from 11.30 to 12 on Saturdays. On four afternoons in the week there was no school.

The content of each subject of instruction required to follow the schedule authorized by the minister of education for all the common schools in Munich. This proved no hindrance for the carrying out of the idea of the industrial

Appendix

FORENOON						AFTERNOON	
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
9-10	Arithmetic (30) Reading and writing (30)	Object lesson (60)	Reading and writing (30) Singing (30)	Arithmetic (30) Reading and writing (30)	Object lesson (60)	Reading and writing (30) Singing (30)	
10-11	Religion (60)	Reading and writing (40) Gymnastics (20)	Arithmetic (40) Gymnastics (20)	Religion (60)	Reading and writing (40) Gymnastics (20)	Arithmetic (40) Gymnastics (20)	
11-12	Object lesson (30)	Arithmetic (30)	Object- lesson (30) Arithmetic (30) (Division A)	Object lesson (30)	Arithmetic (30)	Object lesson (30) Arithmetic (30) (Division B)	
						Reading and writing (40) Gymnastics (20)	
2-3	Reading and writing (40) Gymnastics (20)					Reading and writing (40) Gymnastics (20)	

school. The only difference in these trial classes was the provision for real work in connection with the object lesson. I will give here a brief summary of the work of the first grade in each subject. The second grade was only organized at the beginning of the school year 1911-1912.

a. Object lessons including drawing and manual work.

This endeavoured to make the personal experiences of the child the starting-point and the centre for his activity. According to the Munich schedule it was the business of the object lesson by means of sharpening and practising the senses to awaken and encourage thoughtful observation, to explain ideas already possessed, to increase the store of ideas, to arrange them and to form new and fundamental ideas and concepts. The personal experiences, that were made the basis of our object lessons, were taken partly out of the practical life of the school

and partly from the home life of the children.

At the beginning of the school year actual manual work was preceded by exercises for the sharpening of the senses. These exercises were taken partly from Montessori's book, "Il Metodo della Pedagogia Scientifica," and were carried out generally in the nature of a game. Of course during the whole year they were never entirely neglected and were arranged at certain times in connection with certain activities. They covered the recognition of colors and forms, of tones according to their pitch and intensity, the judgment of the weight of different materials, the acquisition of tact-
ual ideas of the most varying materials and lastly the control of movements and the localization of sensations of movement. A great number of materials served this purpose. The work, which was brought into the closest connection with the object lessons, included sewing,

knitting, basket weaving, woodwork, gardening and the so-called household work. Boys and girls were instructed in the same work, so that the boys learned sewing and knitting and the girls wood-work. Other hand work was occasionally used, *e.g.* modelling in clay, folding paper for special purposes, cardboard work and weaving on hand looms. No special attention, however, was paid to these latter, so as not to make the number of occupations too numerous. A thorough training in some few activities was deemed more desirable. The activities we concentrated upon were chosen because they approximated more closely to the family life of the child. As soon as it was possible, the children were organized from the standpoint of an industrial community, *i.e.* from the standpoint of service and help among the children themselves and with the idea of working together for a common aim or purpose. The method of carrying this

out was of course different from that of the kindergarten. In the elementary school it can never be the chief purpose merely to keep the children busy in a sensible manner. We must aim at systematically increasing manual dexterity in order to train the will to more and more careful work and thereby gradually change the instinct of play into one of work. Certain definite departments of work must always be favoured in the schedule, however varying the method of activity may be according to the disposition of the teacher and child or according to the capacities of the children, or the materials at disposal. Again, even within certain departments of work it is wise to restrict the number of manual activities to a few, so that during the first school year they may be able to reach some degree of exactness. We can also in a way test whether the few chosen departments of work correspond to the physical and mental needs of the child.

This can be done by watching whether the majority of the children, when outside the influence of the school and merely in accordance with their instinct of imitation, seek out and make use of similar activities in their work at home and in their play.

The manner in which manual activity was brought into connection with the conventional themes of the object lesson can be seen from the following summary :—

First Lesson. The Gymnasium and the Playground. The making of wooden rods with pointed ends, of ladders and of handles for apparatus, and other similar things.

Second Lesson. The Street. Construction of wooden blocks, a wooden cupboard, a simple wagon made out of bobbins and small pieces of board.

Third Lesson. The Garden in Autumn. The construction of wooden supports for flowers or bushes. The sewing of seed bags made of gauze.

Fourth Lesson. Christmas. The making of a small bag for presents or of a present such as a bag for serviettes. The construction of wooden building blocks — rectangular and triangular columns.

Fifth Lesson. Snow and Ice. The construction of a wooden sleigh and the weaving of a seat out of basket work.

Sixth Lesson. At the Dressmaker's. The construction of a wooden metre stick and a T-square. The preparation of models for dolls' dresses and the sewing of the same according to the models.

Seventh Lesson. Easter. The colouring of Easter eggs.

Eighth Lesson. The School Garden in Spring. The construction of flower boxes and a wooden trellis fence for same. The sowing of seeds and the planting of flowers. The weaving of a flower basket and a fruit basket.

Ninth Lesson. The Fruit Market. The modelling of various fruits.

Besides these activities, household work was also practised. This included keeping the school-room and workshop clean and tidy, brushing, dusting, washing and decorating, and lastly in helping to prepare Christmas bakery and Easter eggs. The gardening was restricted in autumn, because of very unfavourable weather, to the gathering of seeds, to the planting of flowers and bulbs in pots and also in the garden where they had to be protected from the frost by covering them with earth. The pots were taken out of the ground in spring and the flowers proved for weeks the most beautiful decoration of the school-room. In summer, besides attending to their own flowers, the children worked in the garden of the eighth grade under the supervision of the girls of this grade. The teacher was very well pleased with the results of this association of the smaller children with the older girls. Both old and young in this industrial community showed

equal enthusiasm and equal pleasure, and the educative value for the eighth-grade girls was undoubtedly great.

b. Arithmetic.

Care was taken here that every child should have actual objects so that he could work independently with these. Of course from the very beginning stress was laid upon the fact that the child should not merely guess at results but should take the greatest pains in counting or measuring exactly, and by these means develop his simple number concepts. To carry through the principle of industrial training in arithmetic we made use of cardboard discs, buttons, little sticks, bobbins, strings of beads, copper and nickel coins in purses made by the children themselves, and so on. Of course all the manual activity in woodwork with its perpetual judging, measuring and comparing was of immense value.

c. Writing — Reading.

As preparation for writing we followed

Montessori in using geometrical forms. The children practised drawing their pencil round these forms. The resulting form had then to be carefully coloured. By these means the children got the habit of observing carefully these outlines and of paying attention to the exact copying of the form and trying to draw it correctly. Thus they slowly mastered the writing movements of the hand and the work was not complicated by making them learn the more difficult letter forms. After this the letter cases made by Superintendent Schmid were freely used for the self-activity of the children. The teaching of the particular letter was carried out in some such manner as this : The letter to be learned was slowly written on the blackboard, the children paying attention to every movement. They had then to find the letter in the letter case, and copy it as big as possible upon unruled paper. They were told to touch it and to run their fingers round

it until it was perfectly familiar to them. The preliminary exercises were followed by writing the letters upon the large blackboards that covered three sides of the school-room. Each child was allowed a certain amount of blackboard space. This work was then corrected, all the children trying to find mistakes. Only after this was each child allowed to work independently in his notebook or on his slate. Hand in hand with these exercises went reading and spelling. These latter were usually taught in this fashion: New sentences were written in printed characters upon one of the blackboards by the teacher. The children translated these printed characters into written characters with the help of the letter case. Then they wrote the sentence by heart into their notebooks. The reading primer was read through and thoroughly understood by the middle of May, so that for the last two months of the school year the children were given

a first reading-book which they used with great enjoyment. At first they had some difficulty with the stories printed in fairly small type.

d. Catholic Religious Instruction.

The religious instruction had to conform to the official schedule for the first grade. The principle of self-activity within these limits was carried out as far as possible. In the object lessons pertaining to liturgy this was possible in the real sense of the term. Liturgical objects and actions were seen and studied during repeated visits to St. Joseph's Church. Various objects, such as an altar, manger, cross, flag, sepulchre, etc. were drawn by the children. The liturgical actions were imitated partly in play and partly in all seriousness, *e.g.* the adoration of the Infant Christ, the stations of the cross, the mass, etc. Religious-ethical instruction was combined with all the experiences of the child (at home, on the streets, in the school and

on the playground). In regard to the teaching of prayers, stress was laid upon real prayer and not upon mere memorizing. The teaching of the Bible stories was made realistic by dramatizing them as much as possible and assigning parts among the children.

e. Gymnastics.

Twenty minutes were devoted to this every day. Twice this fell in the afternoon, on Monday and Thursday; on all the other days it was in the forenoon. The forenoon exercises proved a welcome interruption and prevented the possibility of mental fatigue. In the afternoons such exercises were practised as would develop the will power of the children, *i.e.* exercises for the correct holding of the body, competitive games and races.

In the forenoons running, singing and imitation games were generally played. Many of the imitation games were made up by the children themselves and often stood in some kind of a connection with

their lessons. I give the children's names for some of these games: "My flowers are thirsty," "Street traffic," "Keep to the right," "War," etc.

f. Singing.

The songs were chosen in connection with the subject treated of in the object lessons. To give a clear understanding of rhythm, the children had to find out the time of the songs by hearing the teacher sing them.

The above sketch is merely an example of one way of organizing. Other school conditions would lead to other ways of organization. All ways are good so long as we keep to the principles laid down in the text. And yet principles and methods mean little if the teacher is not filled with the spirit of the industrial school. He must have been accustomed to work up and use his own intellectual material; he must be able to overcome his own lazy nature and

Appendix

must press forward with inexhaustible persistence filled with the love of knowledge; he must also have a deep insight into the workings of the child's mind — an insight which our normal school psychology unfortunately cannot give us. If he has not these things, then the idea of the industrial school will remain for him an eternal riddle.

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